

PUBLIC WORKS SURVEILLANCE PLAN
OPERATION, MAINTENANCE AND REPAIR SERVICES OF WATER TREATMENT
PLANT AND INDIVIDUAL WATER TREATMENT SYSTEMS CONTRACT

CONTRACT NO. _____

1. This plan establishes guidance for the routine quality assurance evaluation of the Water Treatment Plant and Water Treatment Systems, Service Contract. Any significant changes to this plan must receive prior approval from the Contracting Officer (KO).
2. The day to day routine interface between Contractor, Public Works and the Contracting Officer is the responsibility of the COR. The ACOR may aid in this interface but must always keep the COR informed, preferably prior to the interface with the Contractor.
3. Surveillance of the Contract will be performed as follows:
 - The COR will be responsible for gathering all required data, performing surveillance, completing all documentation required, maintaining surveillance records and keeping the Contracting Officer informed of significant problems and or accomplishments.
 - Each surveillance will be performed IAW guidance from this plan. If for any reason the plan must be changed, it is the responsibility of the assigned individual to head this effort.
 - All surveillance data will be completed promptly and fully and submitted on or as close to the 1st day of the following month as possible.
4. The following guidelines and forms will be used to record and document all surveillance information.
 - Surveillance Procedures
 - Sample Guide
 - Performance Requirement Summary
 - Surveillance Checklists
 - Surveillance Tally Sheets
 - Monthly Surveillance Summary Form
 - Random Sampling Guide

SURVEILLANCE PROCEDURE

OPERATION, MAINTENANCE AND REPAIR OF WATER TREATMENT PLANT AND SYSTEMS

1. OPERATION AND MAINTENANCE:

Visually inspect per checklist, check operation of equipment, and compare pertinent aspects of operations with contract requirements.

2. REPORTS:

Compare reports received with contract requirements for timeliness, completeness and accuracy.

3. REPAIRS:

Requires a Service Order, limit is \$1000 without Contracting Officer's signature. See that repairs are accomplished and parts installed as per specifications.

4. REPAIRS CAUSED DIRECTLY BY EMERGENCY CONDITIONS:

Emergency response time if applicable, is 2 hours and repairs to be accomplished the same day as NTP, unless otherwise approved by the COR.

**SAMPLE GUIDE FOR OPERATIONS AND MAINTENANCE
OF WATER TREATMENT PLANT**

1. ACCEPTABLE QUALITY LEVEL (AQL): 10%

There must be no more than 10 defects per 100 possible occurrences during the month.

2. INSPECTION TYPE: Normal

3. INSPECTION LEVEL: General Level II

4. LOT SIZE: 35 preventive maintenance occurrences

5. SAMPLE SIZE: 8 occurrences per month

6. SAMPLING PROCEDURE:

Randomly select 8 occurrences, then randomly select days to Perform surveillance's.

- a. TOTAL COMPLETED 35

- b. TOTAL REQUESTED 8

7. INSPECTION PROCEDURE: Randomly selected occurrences will be inspected on randomly selected days. All surveillance inspections will be in conformity with the requirements listed in the following check lists;

- a. Checklist for, Daily Preventive Maintenance.

- b. Check list for, Weekly Operation and Maintenance of Water Treatment Plant.

- c. Checklist for Monthly Preventative Maintenance.

With each and every randomly selected surveillance performed, a daily operations surveillance will also be performed utilizing the Operations of the Water Treatment Plant Checklist.

The COR shall enter the inspection results on the appropriate surveillance checklist, then transfer the total scores to the appropriate tally checklist.

**SAMPLE GUIDE FOR MAINTENANCE OF
INDIVIDUAL WATER TREATMENT SYSTEMS**

1. ACCEPTABLE QUALITY LEVEL (AQL) = 4%

There must be no more than 4% total defects of possible occurrences during the month.

2. INSPECTION TYPE: Normal
3. INSPECTION LEVEL: General Level II
4. LOT SIZE: 30
5. SAMPLE SIZE: 8

6. SAMPLING PROCEDURE:

Randomly select 8 occurrences.

- a. TOTAL COMPLETED 30
- b. TOTAL REQUESTED 8

7. INSPECTION PROCEDURE: Randomly selected occurrences will be inspected for conformity with the requirements listed in the following checklist.

Surveillance Sheet (R.O. Units) Operation / Maintenance

The COR shall enter the inspection results on the Preventive Maintenance R. O. Units Tally Checklist.

**SAMPLE GUIDE FOR REPAIRS ON SERVICE ORDERS
TO WATER TREATMENT SYSTEMS**

1. ACCEPTABLE QUALITY LEVEL

All repairs are accomplished on Service Orders. All Service Orders require 100% inspection upon completion. All repairs must be completed in an acceptable manner with no allowable degree of deviation.

2. INSPECTION TYPE: 100%

3. INSPECTION LEVEL:

4. LOT SIZE: Entire Population

5. SAMPLE SIZE: Entire Population

6. SAMPLING PROCEDURE:

All repairs accomplished on Service Orders will be inspected for acceptance or rejection.

a. TOTAL COMPLETED All service orders issued.

b. TOTAL REQUESTED All service orders completed.

7. INSPECTION PROCEDURE: All repairs accomplished by service orders will be inspected on a pass/fail basis for compliance to contract specifications. Any repairs found to be unacceptable will be rejected until corrected by reperformance at no additional cost to the Government.

WATER TREATMENT PLANT AND INDIVIDUAL SYSTEMS OPERATION/MAINTENANCE AND REPAIR SURVEILLANCE SUMMARY

SUMMARY FOR MONTH OF _____

Contract No. _____

Contractor _____

	SAT 1	UNSAT 0	% of deduction (if applicable to be set by KO)	DEDUC- TION
1. Water Plant-Operations and Maintenance Sample Size _____ AQL 10% days inspected _____ Defects: _____ AC _____ RE _____			x	
2. Inspection Reports Sample Size _____ AQL 10% 100% - inspection Defects: _____ AC _____ RE _____			x	
3. Water Treatment Systems –Operation, Maintenance and Repairs Sample Size _____ AQL 4% 100% - inspection Defects: _____ AC _____ RE _____			x	

COR: _____

DATE: _____

SURVEILLANCE CHECKLIST
FOR
OPERATION OF WATER TREATMENT PLANT

DATE _____

COR/QAE _____ CONTRACTOR'S REP

SAT UNSAT

PLANT IS ADEQUATELY MANNED (.2)

WATER TESTING COMPLETED (.2)

NO INOPERATIVE COMPONENTS (.2)

ADEQUATE SUPPLIES AVAILABLE (.2)

PLANT IS CLEAN AND WELL-MAINTAINED (.2)

TOTAL SATISFACTORY

TOTAL UNSATISFACTORY

**SURVEILLANCE CHECKLIST
FOR
DAILY PREVENTIVE MAINTENANCE**

DATE _____ TIME _____

COR/QAE _____ CONTRACTOR'S REP _____

	SAT	UNSAT
CHECK MOTORS IN OPERATION FOR EXCESSIVE HEAT, VIBRATION AND NOISE	(.07)	
CHECK PUMPS, SO EQUIPPED, FOR PROPER PACKING DRIP RATES	(.07)	
BLOW DOWN AIR DRYER CONDENSATE TRAPS	(.08)	
CHECK ELECTRODE FLOWS EVERY 4 HOURS AND VERIFY PUMP OPERATION	(.07)	
WET STACKS DOWN AFTER SECURING UNITS	(.08)	
CHECK FOR HYDRAULIC LEAKS	(.07)	
ALTERNATE POTABLE PUMP OPERATION	(.08)	
CHECK CHLORINE ANALYZERS	(.08)	
BLOW DOWN THE RAW WATER WYE STRAINER	(.08)	
CHECK OPERATION OF MOV'S 1-6 FOR PROPER ALIGNMENT AND POSITION	(.08)	
CHECK ELECTROLYTE LEVEL IN CHLORINE LEAK DETECTOR	(.08)	
CHECK AREA LIGHTING	(.08)	
CHECK SAFETY EQUIPMENT FOR CLEANLINESS AND GOOD CONDITION	(.08)	

TOTAL SATISFACTORY

TOTAL UNSATISFACTORY

**SURVEILLANCE CHECKLIST
FOR WEEKLY
OPERATION & MAINTENANCE OF WATER TREATMENT PLANT**

DATE _____

COR/QAE _____ CONTRACTOR'S REP

	SAT	UNSAT
VERIFY OPERATION OF THE CHLORINE LEAK DETECTOR AND REMOTE ALARM FUNCTION. (.1)		
CHECK ALARM PANEL AND EQUIP INDICATOR BULBS (.1)		
CHECK THAT ALL EQUIP GROUNDS ARE SECURE (.1)		
CHECK EMERGENCY SHOWERS AND EYEWASH STATIONS (.1)		
CHECK SCBA FOR PROPER PRESSURE AND CONDITION (.1)		
CHANGE PH METER ELECTRODE STORAGE SOLUTION (.1)		
CHECK PH AND FLUORIDE METER CALIBRATION (.1)		
CHECK FOR LEAKS ON ALL EQUIPMENT (.1)		
CHECK EMERGENCY LIGHTS/SECURE BREAKER #2 ON PANEL A (.1)		
CHECK OIL LEVEL IN AIR COMPRESSORS AC-201 AND AC-2-2 (.1)		

TOTAL SATISFACTORY

TOTAL UNSATISFACTORY

SURVEILLANCE CHECKLIST FOR MONTHLY PREVENTIVE MAINTENANCE

DATE _____
COR/QAE _____ CONTRACTOR'S REP. _____

	SAT	UNSAT
PERFORM STACK PROBE ON EDR UNITS	(.09) _____	_____
CHECK TDS & CONDUCTIVITY METER CALIBRATION	(.08) _____	_____
CLEAN EYEWASH BOTTLES, REFILL	(.08) _____	_____
CHECK STACK WET DOWNS/DRAINS, CLEAN COVERS	(.08) _____	_____
HOSE OUT TRENCHES & CLEAN DRAIN TRAPS	(.09) _____	_____
PLACE WELL PUMPS IN HAND TO OVERFLOW RAW		
WATER TANK FOR 20 MINUTES	(.09) _____	_____
OVERFLOW REMOTE TANKS FOR 2 HOURS	(.08) _____	_____
CLEAN FILTERS ON RECT. CABS, AIR COMP & A/C	(.08) _____	_____
EXERCISE ALL VALVES NOT NORMALLY USED	(.08) _____	_____
INSPECT OVERHEAD CRANE AND NYLON SLINGS	(.08) _____	_____
CHECK CATHODIC PROTECTION ON TANKS	(.08) _____	_____
RECORD AMPERAGES FOR L-1, L-2 & L-3	(.09) _____	_____

TOTAL SATISFACTORY _____

TOTAL UNSATISFACTORY _____

**SURVEILLANCE CHECKLIST
FOR
(R.O. UNITS) OPERATION / MAINTENANCE**

Building Number: _____

- | | SAT | UNSAT |
|---|------------|-------|
| 1. VISUALLY INSPECT EQUIPMENT,
FOR DAMAGE OR LEAKS | (20) _____ | |
| 2. MAINTAIN ACCEPTABLE CHEMICAL
LEVEL (APPLICABLE UNITS) OTHERS
ADD TO #3 | (30) _____ | |
| 3. KEEP AREA, ALL EQUIPMENT
AND R. O. UNIT CLEAN | (20) _____ | |
| 4. CHECK ALL EQUIPMENT FOR
PROPER OPERATION & PERFORMANCE | (30) _____ | |

COMMENTS: _____

COR SIGNATURE: _____ DATE: _____

TALLY CHECKLIST Operations & Preventive Maintenance		MONTH OF:	
DATE AND OBS ARE THE SAME	SAT	UNSAT	REMARKS
Daily Operations and Maintenance Surveillance			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Daily, Weekly and Monthly Preventive Maintenance Surveillance			
DATE SURVEILLANCE PERFORMED	SAT	UNSAT	REMARKS
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

TALLY CHECKLIST
Operation & Maintenance R. O. Units

MONTH OF:

[illegible]

PREVENTIVE MAINTENANCE

OBS NO.	TYPE	OCCURENCE	OBS NO.	TYPE	OCCURENCE
1	DAILY	1	22	DAILY	22
2	DAILY	2	23	DAILY	23
3	DAILY	3	24	DAILY	24
4	DAILY	4	25	DAILY	25
5	DAILY	5	26	DAILY	26
6	DAILY	6	27	DAILY	27
7	DAILY	7	28	DAILY	28
8	DAILY	8	29	DAILY	29
9	DAILY	9	30	DAILY	30
10	DAILY	10	31	WEEKLY	1
11	DAILY	11	32	WEEKLY	2
12	DAILY	12	33	WEEKLY	3
13	DAILY	13	34	WEEKLY	4
14	DAILY	14	35	MONTHLY	1
15	DAILY	15			
16	DAILY	16			
17	DAILY	17			
18	DAILY	18			
19	DAILY	19			
20	DAILY	20			
21	DAILY	21			

MIL-STD-105E

TABLE 1 --- SAMPLE SIZE CODE LETTERS

LOT OR BATCH SIZE		SPECIAL INSPECTION LEVELS				GENERAL INSPECTION LEVELS		
		S1	S2	S3	S4	I	II	III
2	TO	A	A	A	A	A	A	B
9	TO	A	A	A	A	A	B	C
16	TO	A	A	B	B	B	C	D
26	TO	A	B	B	C	C	D	E
51	TO	B	B	C	C	C	E	F
91	TO	B	B	C	D	D	F	G
151	TO	B	C	D	E	E	G	H
281	TO	B	C	D	E	F	H	J
501	TO	C	C	E	F	G	J	K
1201	TO	C	D	E	G	H	K	I
3201	TO	C	D	F	G	J	L	M
10001	TO	C	D	F	H	K	M	N
35001	TO	D	E	G	J	L	N	P
150000	TO	D	E	G	J	M	P	Q
500001	AND OVER	D	E	H	J	N	Q	R

Sample size	Sample size	Acceptable Quality Levels Normal Inspection																Sample size	Sample size
		0.010	0.025	0.040	0.050	0.063	0.075	0.100	0.125	0.150	0.200	0.250	0.315	0.400	0.500	0.630	0.800		
A	2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	2	2
B	3	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	3	3
C	5	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	5	5
D	8	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	8	8
E	13	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	13	13
F	20	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	20	20
G	32	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	32	32
H	50	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	50	50
I	80	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	80	80
K	125	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	125	125
L	200	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	200	200
M	325	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	325	325
N	500	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	500	500
P	800	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	800	800
Q	1250	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	1250	1250
R	2000	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	2000	2000

SINGLE NORMAL TABLE

↓ = Use first sampling plan below arrow. If sample size n or exceeds lot or batch size, do 100% inspection.
 ↑ = Use first sampling plan above arrow.
 A = acceptance number.

		Acceptable Quality Levels Reduced Inspection															
Sample size	Sample size	20	100	150	200	250	300	400	500	600	700	800	1000	1250	1500	2000	3000
A	2	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
B	2	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
C	2	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
D	3	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
E	5	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
F	8	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
G	13	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
H	20	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
I	32	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
K	50	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
L	80	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
M	125	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
N	200	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
P	315	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
Q	500	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
R	800	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re

Use first sampling plan below arrow. If sample size equals or exceeds lot or batch size, do 100% inspection.

Use first sampling plan above arrow.

Ac=Acceptance number.

Re=Rejection number.

SINGLE REDUCED TABLE

RANDOM NUMBERS TABLE

Line	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	10480	15011	01536	02011	81647	91646	69179	14194	62590	36207	20969	99570	91291	90700
2	22368	46573	25592	83393	30995	89198	27982	53402	93965	34095	52666	19174	39615	99505
3	24230	48360	22527	97265	76393	64809	15179	24830	49340	32081	30680	19655	63348	58629
4	42167	93093	06243	61680	07856	16376	39440	53537	71341	57004	00849	74917	97758	16379
5	37570	39975	81837	16656	06121	91782	60468	81305	49684	60672	14110	06927	01263	54613
6	77921	06907	11008	42751	27756	53498	18602	70659	90655	15053	21916	81825	44394	42880
7	99562	72905	56420	69994	98872	31016	71194	18738	44013	48840	63213	21069	10634	12952
8	96301	91977	05463	07972	18876	20922	94595	56869	69014	60045	18425	84903	42508	32307
9	89579	14342	63661	10281	17453	18103	57740	84378	25331	12566	58678	44947	05585	56941
10	85475	36857	53342	53988	53060	59533	38867	62300	08158	17983	16439	11458	18593	64952
11	28918	69578	88231	33276	70997	79936	56865	05859	90106	31595	01547	85590	91610	78188
12	63553	40961	48235	03427	49626	69445	18663	72695	52180	20847	12234	90511	33703	90322
13	09429	93969	52636	92737	88974	33488	36320	17617	30015	08272	84115	27156	30613	74952
14	10365	61129	87529	85689	48237	52267	67689	93394	01511	26358	85104	20285	29975	89868
15	07119	97336	71048	08178	77233	13916	47564	81056	97735	85977	29372	74461	28551	90707
16	51085	12765	51821	51259	77452	16308	60756	92144	49442	53900	70960	63990	75601	40719
17	02368	21382	52404	60268	89368	19885	55322	44819	01188	65255	64835	44919	05944	55157
18	01011	54092	33362	94904	31273	04146	18594	29852	71585	85030	51132	01915	92747	64951
19	52162	53916	46369	58586	23216	14513	83149	98736	23195	64350	94738	17752	35156	35749
20	07056	97628	33787	09998	42698	06691	76988	13602	51851	46104	88936	19509	25625	58104
21	48663	91245	85828	14346	09172	30168	90229	04734	59193	22178	30421	61666	99904	32812
22	54164	58492	22421	74103	47070	25306	76468	26384	58151	06646	21524	15227	96909	44592
23	32639	32363	05597	24200	13363	33005	94342	29728	35806	06912	17012	64161	13296	22851
24	29334	27001	87637	37308	58731	00256	45834	15398	46557	41135	10367	07684	36188	18510
25	02488	33062	28834	07351	19731	92420	60952	61280	50001	67658	32586	86679	50720	94953
26	81525	72295	04839	96423	24878	82651	66566	14778	76797	14780	13300	87074	79666	95725
27	29676	20591	68086	26432	46901	20849	89768	81536	86645	12659	92259	57102	80428	25280
28	00742	57392	39064	66432	84673	40027	32832	61362	98947	96067	64760	64584	96096	98253
29	05366	04213	25669	26422	44407	44048	37937	63904	45766	66134	75470	66520	34693	90449
30	91921	26418	64117	94305	26766	25940	39972	22209	71500	64568	91402	42416	07844	69618
31	00582	04711	87917	77341	42206	35126	74087	99547	91817	42607	43808	76655	62029	76630
32	00725	69884	62797	56170	86324	88072	76222	36086	84637	93161	76038	65855	77919	88006
33	69011	65795	95876	55293	18988	27354	26575	08625	40801	59920	29841	80150	12777	48501
34	25976	57948	29888	88604	67917	48708	18912	82271	65424	69774	33611	54262	85963	03547
35	09763	83473	73577	12908	30883	18317	28290	35797	05998	41688	34952	37888	38917	88050
36	91567	42595	27958	30134	04024	86325	29880	99730	55536	84855	29080	09250	79656	73211
37	17955	56349	90999	49127	20044	59931	06115	20541	18059	02008	73708	83517	36103	42791
38	46503	13584	18845	49618	02304	51038	20655	58727	28168	15475	56942	53389	20562	87338
39	92157	89634	94824	78171	84610	82834	09922	25417	44137	48413	25555	21246	35509	20468
40	14577	62765	35605	81263	39667	47358	56873	56307	61607	49518	89686	20103	77490	18062
41	98427	07523	33362	64270	01613	92477	66969	98420	04880	45585	46565	04102	46880	45709
42	34914	63976	88720	82765	34476	17032	87589	40836	32427	70002	70663	88863	77775	69348
43	70060	28277	39475	46473	23219	53416	97970	25832	69975	94884	19661	72828	00102	66794
44	53976	54914	06990	67245	68350	82948	11398	42878	80287	88267	47363	46634	06541	97809
45	76072	29515	40980	07391	58746	25774	22987	80059	39911	96189	41151	14222	60697	59583
46	90725	52210	23974	29992	65831	38857	50490	83765	55657	14361	31720	55375	55228	41546
47	64364	67412	33339	31926	14883	24413	59744	92351	97473	89286	35931	04110	23726	51900
48	08962	20358	31662	25388	61642	34072	81249	25648	56891	69352	48373	45578	79547	91788
49	95012	68379	93526	70765	10592	04542	76463	54328	02349	17247	28865	14777	62730	92277
50	15664	10493	20492	38391	91132	21999	59516	81652	27195	48223	46751	22923	32261	95653